

S/N 10/053,514  
AMENDMENT

ATTY DOCKET NO. 0212-0001

### REMARKS

This amendment is in response to the office action mailed March 30, 2004 for the above-identified patent application, directed to a cooling package for an agricultural combine.

On behalf of Applicants, the undersigned agent thanks the Examiner for courtesies extended during the telephone interview of April 29, 2004.

Claims 1-4, 6, 7, 9-11, and 13 stand rejected under 35 U.S.C. §§ 102 and 103. Claims 5, 8, and 12 stand objected to as depending from a rejected claim, but are otherwise allowable. The drawings are objected to for informalities. The claims are amended as shown above to overcome the rejections and objections. Replacement drawings are submitted herewith to overcome the objections to the drawings.

A "Rule 132 Declaration of Applicant Rebecca A. Frana-Guthrie," as allowed by 37 CFR 1.132, as an addendum to this response, to better explain the environment and uses of the invention as claimed.

The objections and rejections are discussed in generally the same order as in the office action.

#### **Allowable Claims 5, 8, and 12 Rewritten In Independent Form**

As indicated by the Examiner, claims 5, 8, and 12 would be allowable if rewritten in independent form to include all limitations of the base claim and any intervening claims.

Claims 5 and 12 have been rewritten in independent form, including all the limitations of original base claim 3, and claim 8 has been rewritten in independent form, including all the limitations of original base claim 6, accordingly, it is respectfully requested that the objection be reconsidered and withdrawn and claims 5, 8, and 12 be allowed as rewritten.

#### **Drawings**

Replacement drawings properly labeled as "Replacement Drawings," as required by 37 CFR 1.121(d), are submitted with this amendment. The replacement drawings correct the "poor line quality" noted by the Official Draftsperson. Applicants respectfully request reconsideration and withdrawal of the objections to the drawings.

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**Claim Rejections – 35 U.S.C. § 102**

Turning now to the claim rejections as to anticipation under Section 102, claims 1-4, 6, 7, 9, 11 and 13 stand rejected as being allegedly anticipated by Struss (U.S. Patent 4,651,816). Struss discloses heat exchangers for use behind a grille of an automobile, wherein the heat exchangers are joined by securing strips or bars 18, wherein each heat exchanger is fastened to the bar. The heat exchangers are connected to a shroud using connector bars 20 on two sides of the shroud.

Claim 1 is amended to include the limitations of the radiator having an upstream face, the charge air cooler having an upstream face, the charge air cooler being bolted to the radiator so that the upstream radiator face is aligned generally in a common plane with the upstream charge air cooler face to form an upstream subassembly face, and wherein a line to line fit is formed between the radiator and the charge air cooler for a metal to metal seal. Support for the amendments to claim 1 can be found in the specification, as filed, on p. 3, l. 3, 11 and 25, p. 5, l. 22-23, p. 6, l. 27, p. 7, l. 6-7, p. 10, l. 18, and claims 2 and 10.

Amended claim 1 is patentable because, *inter alia*, Struss does not teach or suggest a subassembly for a cooling package for use in an agricultural combine including a radiator having an upstream face, a charge air cooler having an upstream face, wherein the charge air cooler is bolted to the radiator to form an upstream subassembly face comprising the upstream radiator face and the upstream charge air cooler face, wherein the upstream radiator face is aligned substantially in the same plane with the upstream charge air cooler face, and to form a line to line fit between the radiator and the charge air cooler for a metal to metal seal, and wherein there are no leak paths between the radiator and the charge air cooler.

Rather, Struss merely discloses heat exchangers which are each fastened to an insulating, preferably plastic, connecting bar. Struss does not teach or suggest that the heat exchangers be bolted together to form a line to line fit for a metal to metal seal. On the contrary, Struss insists that “where the heat exchangers are conventionally made of metal components, contact between different ones of the heat exchangers is to be avoided to prevent the possibility of galvanic corrosion” (Struss, col. 4, l. 14-17). Thus, Struss

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specifically teaches away from metal to metal contact between heat exchangers, let alone a metal to metal seal.

Finally, Struss is designed for use behind the grill of an automobile, wherein the heat exchangers of Struss experience a considerably high flow rate of clean, chaff-free ram air, wherein sealing is not as important, see Decl. ¶ 7, whereas the cooling package of amended claim 1 is used in the chaff-laden environment of an agricultural combine, wherein sealing is important for efficiency of the cooling package and wherein chaff can wear away seals, see Decl. ¶¶ 6, 8, and 9.

Claims 2 and 9 depend from claim 1, and are therefore patentable for at least the same reasons as amended claim 1. Further, claim 2 adds the limitation of the radiator and charge air cooler having extended lips that are bolted together, and claim 9 adds the limitation of a side of the radiator being connected to a side of the charge air cooler, wherein the metal to metal seal is formed between the sides of the charge air cooler and the radiator.

Claim 3 has been amended to include the limitation of the flange being attached around the entirety of the inner surfaces of the walls. Support for the amendment to claim 3 can be found in the specification, as filed, on p. 7, l. 23-24.

Claim 3 as amended is patentable because, *inter alia*, Struss does not teach or suggest a cooling package for use in an agricultural combine including a frame having walls that define an opening, each wall having an inner surface, a flange attached around the entirety of the inner surfaces of the walls, the flange extending inwardly into the opening, a radiator having a face, a charge air cooler having a face, wherein the radiator is connected to the charge air cooler in order to form a subassembly, the subassembly having a face with a perimeter, the subassembly face comprising the radiator face and the charge air cooler face, the subassembly being mounted in the opening of the frame, there being a seal between the perimeter of the subassembly face and the flange, wherein there are no leak paths around the perimeter of the subassembly face.

Rather, Struss discloses a side of one heat exchanger 12 being connected to one side of shroud 10 with a bar 20, and a side of a second heat exchanger 14 being connected to an opposite side of shroud 10 with another bar 20. Struss does not teach or

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suggest a flange around the entirety of a frame to form a seal around the perimeter of a subassembly face.

Claims 4 and 11 depend from claim 3, as amended, and are therefore patentable over Struss for at least the same reasons as amended claim 3. Further, claim 11 adds the additional limitations of the radiator having a side that is connected to a side of the charge air cooler, and claim 4 adds the additional limitations of the sides of the radiator and the charge air cooler having extended lips and the sides being connected by bolting the extended lips together.

Claim 6 has been amended to include the limitation of attaching the flange around the entirety of the inner surfaces of frame. Support for the amendment to claim 6 can be found in the specification, as filed, on p. 7, l. 23-24.

Claim 6, as amended, is patentable because, *inter alia*, Struss does not teach or suggest a method of manufacturing a cooling package for use in an agricultural combine, including the steps of, providing a frame having walls that define an opening, each wall having an inner surface, attaching a flange around the entirety of the inner surfaces of the walls so that the flange extends inwardly into the opening, providing a radiator having a face, providing a charge air cooler having a face, connecting the radiator to the charge air cooler to form a subassembly with a face having a perimeter, the subassembly face comprising the radiator face and the charge air cooler face, mounting the subassembly into the opening of the frame, and sealing the perimeter of the subassembly face against the flange so that there are no leak paths around the perimeter of the subassembly face.

Rather, as discussed above, Struss discloses connecting heat exchangers to two sides of a shroud, but does not teach a flange around the entirety of a frame.

Claims 7 and 13 depend from claim 6, as amended, and are therefore patentable over Struss for at least the same reasons as amended claim 6. Further, claim 7 includes the additional limitations of the connection step being done with nuts and bolts and claim 13 includes the additional limitations of the radiator having a side and the charge air cooler having a side, wherein the connecting step includes connecting the radiator side to the charge air cooler side.

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Therefore, Struss neither teaches nor suggests Applicants' invention as claimed in claims 1-4, 6, 7, 9, 11 and 13, as amended, accordingly, it is respectfully requested that the rejection be reconsidered and withdrawn.

**Claim Rejections – 35 U.S.C. § 103**

Turning now to the rejections as to obviousness under section 103, claims 1, 9, and 10 stand rejected as allegedly unpatentable over Williams (U.S. Patent 4,736,727).

Claim 1 is directed to a cooling package for agricultural combines which operate over rough terrain in dirty, chaff-laden environments where the elimination of leak paths through sealing is important for heat exchanger efficiency, see Declaration of Applicant Rebecca A. Frana-Guthrie (hereinafter "Decl.") ¶¶ 5 and 6. Prior to the present invention, as claimed, foam was crammed into gaps in an attempt to eliminate leak paths, but the foam wore away or fell out during operation, Decl. ¶ 8. The present invention, as claimed in claim 1, includes a metal to metal seal between the radiator and the charge air cooler which eliminates the need for a foam seal which would wear away, Decl. ¶ 9.

Claim 1 is patentable because, *inter alia*, Williams neither teaches nor suggests a subassembly for a cooling package for use in an agricultural combine including a radiator having an upstream face, a charge air cooler having an upstream face, wherein the charge air cooler is bolted to the radiator to form an upstream subassembly face comprising the radiator face and the charge air cooler face, wherein the upstream radiator face is aligned substantially in the same plane with the upstream charge air cooler face, and to form a line to line fit between the radiator and the charge air cooler for a metal to metal seal, and wherein there are no leak paths between the radiator and the charge air cooler.

Williams discloses heat exchangers located behind the grille of a highway truck which operate in clean, chaff-free environments with considerable ram air available for cooling, Decl. ¶ 7, where sealing and the elimination of leak paths is not important. There is no teaching or suggestion in Williams that radiator assembly 44 should be bolted to charge air cooler assembly 60. Also, Williams does not teach or suggest that a line to line fit if formed between radiator assembly 44 and charge air cooler assembly 60 for a metal to metal seal. Williams merely discloses radiator assembly 44 being positioned adjacent to charge air cooler assembly 60, but, this is a far cry from Applicants' bolting

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together the heat exchangers to form a subassembly with a line to line fit to create a metal to metal seal.

Moreover, as admitted by the Examiner, Williams does not show the faces of radiator assembly 44 and charge air cooler assembly 60 being aligned with one another, and there is no teaching, suggestion, or motivation for rearranging radiator assembly 44 and charge air cooler assembly 60 to align their faces. The Examiner has cited no prior art to support the assertion that the faces could be aligned for the purpose of cleaning, so that the Examiner has not provided a *prima facie* case of obviousness.

Claim 9 depends from claim 1 and is therefore patentable over Williams for at least the same reasons as stated above for claim 1. Also, claim 9 includes the additional limitation of a side of the radiator being bolted to a side of the charge air cooler, wherein the metal to metal seal is between the sides of the radiator and charge air cooler, which is neither taught nor suggested by Williams.

Claim 10 has been canceled because its limitation has been incorporated into claim 1.

The present invention, as claimed, has satisfied a long felt need and has been commercially successful, see Decl. ¶ 11, providing secondary evidence of nonobviousness, see *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966).

Thus, Williams does not teach or suggest Applicants' invention as claimed in claims 1 and 9, accordingly, it is respectfully requested that the rejection be reconsidered and withdrawn.

#### **New Claims 14 and 15**

New claims 14 and 15 have been added to more particularly point out and distinctly claim aspects which Applicants regard as their invention. Support for the new claim can be found in the specification, as filed, on p. 7, l. 6-7.

New claim 14 depends from claim 3, and is therefore patentable for at least the same reasons as stated above for claim 3. Claim 14 is patentable because neither Struss nor Williams, alone or in any proper combination, teach or suggest the cooling package of claim 3 with the additional limitation of a metal to metal seal between the charge air cooler and the radiator.

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New claim 15 depends from claim 6, and is therefore patentable for at least the same reasons as stated above for claim 6. Claim 15 is patentable because neither Struss nor Williams, alone or in any proper combination, teach or suggest the method of manufacturing a cooling package for use in an agricultural combine as claimed in claim 6, with the additional step of forming a metal to metal seal between the radiator and the charge air cooler.

If the Examiner believes it would help to advance the prosecution, the undersigned agent would welcome the opportunity to discuss the application in a further telephone interview and can be reached at (312) 201-0011.

For the foregoing reasons, Applicants respectfully request reconsideration and allowance of all claims as amended.

Respectfully submitted,

Dated this 10th day of May, 2004.



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